

CLAIMS

What is claimed is:

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a17
5 1. In a wireless communications system, a base station location determining system comprising:

a satellite positioning system receiver;
predetermined location coordinates of said satellite positioning system receiver; and

10 a module which determines a difference between a location signal received by said satellite positioning system receiver and said predetermined location coordinates.

2. In a wireless communications system, a location determining system according to claim 1, wherein:

15 said location determining system is located in a base station of said wireless system.

3. In a wireless communications system, a location determining system according to claim 2, wherein:

20 said wireless communications system is a cellular telephone system.

4. In a wireless communications system, a location determining system according to claim 1, wherein:

25 said satellite positioning system is a GPS system receiver.

5. In a wireless communications system, a location determining system according to claim 1, wherein:

30 said satellite positioning system is a GLONASS system receiver.

6. In a wireless communications system, a location determining system according to claim 1, further comprising:

5 a database containing at least one geological correction with respect to a location of said satellite positioning system receiver.

7. In a wireless communications system, a location determining system according to claim 1, further comprising:

10 a cellular telephone handset having a navigational satellite system capability;

wherein a location determined by said cellular telephone handset is correctable by said difference between said location signal received by said satellite positioning system receiver of said base station and said predetermined location coordinates.

8. In a wireless communications system, a location determining system according to claim 1, wherein said difference comprises:

20 a longitude difference; and
a latitude difference.

9. In a wireless communications system, a location determining system according to claim 1, wherein said difference further comprises:

25 an altitude difference.

10. A method of improving an accuracy of a received navigational/satellite signal in a cellular telephone handset, comprising:

receiving location information from a navigational satellite system;

receiving a differential GPS correction signal relating to an error in said received location information; and

combining said location information and said differential GPS correction signal to generate highly accurate location information.

11. The method of improving an accuracy of a received navigational satellite signal in a cellular telephone handset according to claim 10, further comprising:

transmitting said highly accurate location information to a called party during an emergency telephone call.

12. The method of improving an accuracy of a received navigational satellite signal in a cellular telephone handset according to claim 11, wherein:

said emergency telephone call is a 911 telephone call.

13. The method of improving an accuracy of a received navigational satellite signal in a cellular telephone handset according to claim 10, wherein:

said received differential GPS correction signal is transmitted by a base station servicing said cellular telephone handset.

14. The method of improving an accuracy of a received navigational satellite signal in a cellular telephone handset according to claim 13, wherein:

5 said received differential GPS correction signal is determined by said base station servicing said cellular telephone handset.

15. Apparatus for improving an accuracy of a received navigational satellite signal in a cellular telephone handset, comprising:

10 means for receiving location information from a navigational satellite system;

means for receiving a differential GPS correction signal relating to an error in said received location information; and

15 means for combining said location information and said differential GPS correction signal to generate highly accurate location information.

16. The apparatus for improving an accuracy of a received navigational satellite signal in a cellular telephone handset according to claim 15, further comprising:

20 means for transmitting said highly accurate location information to a called party during an emergency telephone call.

17. The apparatus for improving an accuracy of a received navigational satellite signal in a cellular telephone handset according to claim 16, wherein:

said emergency telephone call is a 911 telephone call.

18. The apparatus for improving an accuracy of a received navigational satellite signal in a cellular telephone handset according to claim 15, wherein:

said received differential GPS correction signal is transmitted by a base station servicing said cellular telephone handset.

19. The method of improving an accuracy of a received navigational satellite signal in a cellular telephone handset according to claim 18, wherein:

said received differential GPS correction signal is determined by said base station servicing said cellular telephone handset.

20. A method of increasing accuracy of a navigational satellite system in a wireless communications device, comprising:

receiving using cellular telephone functionality of said wireless communications device a differential GPS correction signal containing a location correction factor;

determining a location of said wireless communications device using a navigational satellite system portion of said wireless communications device; and

combining said location correction factor with said determined location of said wireless communications device.

21. The method of increasing accuracy of a navigational satellite system in a wireless communications device according to claim 20, wherein said location correction factor comprises:

a longitude correction; and

a latitude correction.

22. The method of increasing accuracy of a navigational satellite system in a wireless communications device according to claim 21, wherein said location correction factor further comprises:

an altitude correction.

23. A navigational system, comprising:

a satellite positioning system receiver;

a wireless communications front end; and

a module adapted to output a corrected location signal

5 comprising a location signal received by said satellite positioning system receiver and a correction factor received by said wireless communications front end.

24. The navigational system according to claim 23, wherein:
10 said location signal includes altitude information.

25. The navigational system according to claim 23, wherein:
15 said satellite positioning system receiver is a GPS receiver.

26. The navigational system according to claim 23, wherein:
said wireless communications front end is a cellular
telephone.